

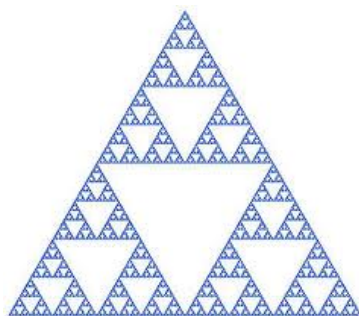
## Chapter 5 Angles, Similarity, Transformations

### 5.5 Parallel Line Properties

Unit Question: How do we create from investigating similarities and differences?

Learner Profile: Reflective

Area of Interaction: Human Ingenuity



# I Can Statement:

I can use properties of parallel lines to solve real life problems



1

**ACTIVITY: A Property of Parallel Lines**

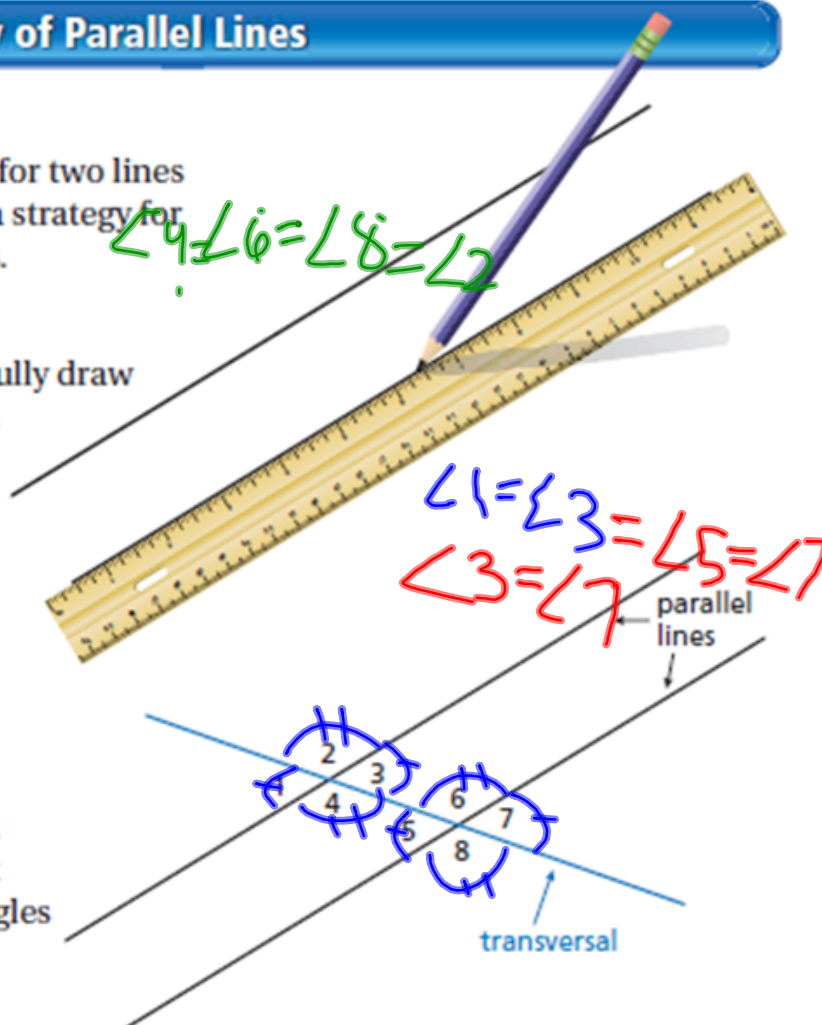
Work with a partner.

- Talk about what it means for two lines to be parallel. Decide on a strategy for drawing two parallel lines.

- Use your strategy to carefully draw two lines that are parallel.

- Now, draw a third line that intersects the two parallel lines. This line is called a **transversal**.

- The two parallel lines and the transversal form eight angles. Which of these angles have equal measures? Explain your reasoning.

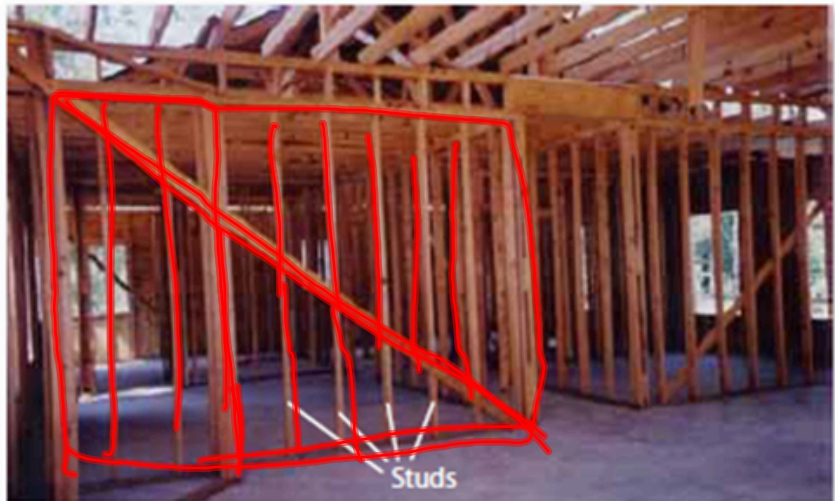


2

## ACTIVITY: Creating Parallel Lines

Work with a partner.

- a. If you were building the house in the photograph, how could you make sure that the studs are parallel to each other?
- b. Identify sets of parallel lines and transversals in the photograph.



Before we start activity 3, we need to understand:

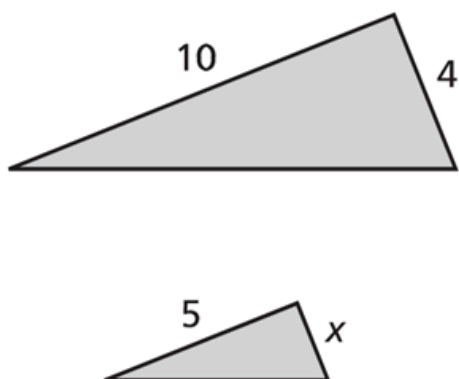
- Similar Triangles
- Parallel Lines

To solve a real life problem

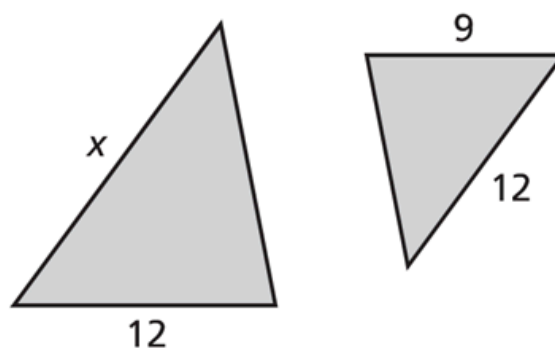
## Review of Similar Triangles

The triangles are similar. Find the value of  $x$ .

1.



2.



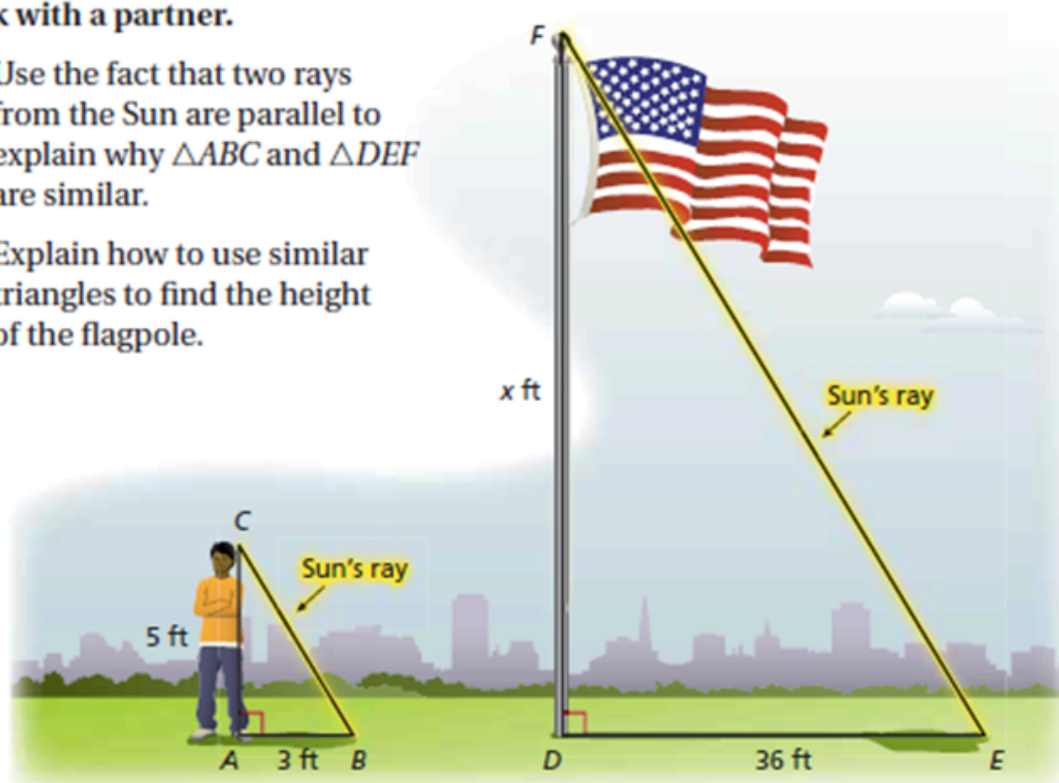
3. If corresponding angles in one triangle are congruent to the corresponding angles of another triangle, the two triangles are

\_\_\_\_\_.

**3 ACTIVITY: Indirect Measurement**

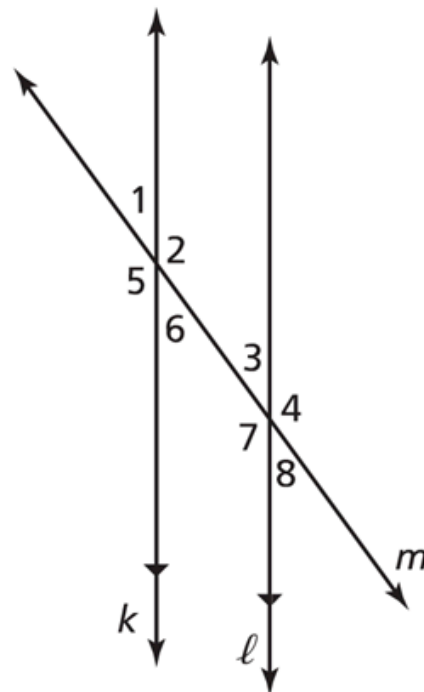
Work with a partner.

- Use the fact that two rays from the Sun are parallel to explain why  $\triangle ABC$  and  $\triangle DEF$  are similar.
- Explain how to use similar triangles to find the height of the flagpole.



Use the figure.

1. Identify the parallel lines.
2. Identify the transversal.
3. How many angles are formed by the transversal?
4. Which of the angles are congruent?



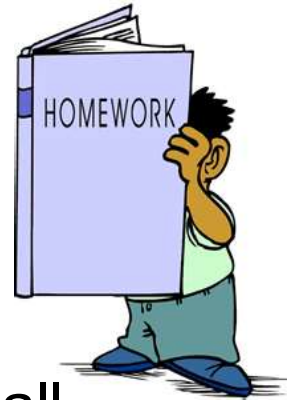


## What Is Your Answer?

4. **IN YOUR OWN WORDS** How can you use properties of parallel lines to solve real-life problems? Describe some examples.

# Assignment:

Classwork-Workbook Activity 5.5



Homework-Textbook p214-216 1-7all